

An ink comprising a pigment and a resin 1. encapsulating a coloring material.

5

The ink according to Claim 1, wherein the 2. pigment is a carbon black.

10

The ink according to Claim 2, wherein the carbon black is a self-dispersing carbon black to the surface of which at least one hydrophilic group is bonded directly or through another atomic group.

The ink according to Claim 3, wherein the hydrophilic group is anionic.

15

The ink according to Claim 1, which further comprises a pigment dispersant.

20

The ink according to Claim 5, wherein the dispersant has an anionic hydrophilic group at the surface thereof.

The ink according to Claim 1, wherein the resin encapsulating a coloring material has an anionic hydrophilic group at the surface thereof.

25

The ink according to Claim 1, wherein the 8.

-

coloring material is a water-insoluble dye.

9. The ink according to Claim 1, wherein the coloring material is a pigment.

5

10. The ink according to Claim 1, wherein the pigment and the coloring material have substantially the same color.

10

15

25

11. The ink according to Claim 1, wherein the coloring material is encapsulated in a microcapsule made of the resin.

- 12. An ink comprising either a pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material.
- 13. The ink according to Claim 12, wherein the 20 pigment is a carbon black.
 - 14. The ink according to Claim 12, wherein the pigment is a self-dispersing carbon black to the surface of which at least one cationic hydrophilic group is bonded directly or through another atomic group.

15. The ink according to Claim 12, wherein the coloring material is a water-insoluble dye or pigment.

16. The ink according to Claim 12, wherein the resin encapsulating a coloring material has a cationic hydrophilic group at the surface thereof.

17. The ink according to Claim 12, wherein the pigment having the cationic group and the coloring material have substantially the same color.

18. The ink according to Claim 12, wherein the coloring material senoapsulated in a microcapsule made of the resin.

19. An ink cartridge, comprising an ink container containing an ink, which comprises a pigment and a resin encapsulating a coloring material.

20. The ink cartridge according to Claim 19, wherein the pigment is a carbon black.

21. The ink cartridge according to Claim 20, wherein the carbon black is a self-dispersing carbon black to the surface of which at least one hydrophilic group is bonded directly or through another atomic group.

15

20

25

10

22. The ink cartridge according to Claim 21, wherein the hydrophic group is anionic.

23. The ink cartridge according to Claim 19, which further comprises a pigment dispersant.

24. The ink cartridge according to Claim 23, wherein the dispersant has an anionic hydrophilic group at its surface.

10

5

25. The ink cartridge according to Claim 19, wherein the resin encapsulating the coloring material has an anionic hydrophilic group at its surface.

15

- 26. The ink cartridge according to Claim 19, wherein the coloring material is a water-insoluble dye.
- 27. The ink cartridge according to Claim 19, wherein the coloring material is a pigment.

20

28. The ink cartridge according to Claim 19, wherein the pigment and the coloring material have substantially the same color.

. 25

29. The ink cartridge according to Claim 19, wherein the coloring material is encapsulated in a microcapsule made of the resin.

5

15

20

An ink cartridge, comprising an ink container containing an ink comprising either a pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material.

- 31. The ink cartridge according to Claim 30, wherein the pigment is a carbon black.
- 32. The ink cartridge according to Claim 30, wherein the carbon black is a self-dispersing carbon black to the surface of which at least one cationic hydrophilic group is bonded directly or through another atomic group.
 - 33. The ink cartridge according to Claim 30, wherein the coloring material is a water-insoluble dye or pigment.
 - 34. The ink cartridge according to Claim 30, wherein the resin encapsulating the coloring material has a cationic hydrophilic group at the surface thereof.
- 25 35. The ink cartridge according to Claim 30, wherein the pigment having the cationic group and the coloring material have substantially the same color.

	36.	The	ink	cartridge	ac	cording	to	Claim	30,
wherein	the	colo	ring	material	is	encapsu	ılat	ed in	a
microca	psule	made	e þf	the resin	١.				

37. A recording unit, comprising:

an ink container containing an ink comprising a pigment and a resin encapsulating a coloring material,

a recording head, and

a means for feeding the ink from the ink container to the recording head.

38. A recording unit, comprising:

an ink container containing an ink comprising either pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material,

a recording head, and

a means for feeding the ink from the ink container to the recording head.

20

25

5

10

15

39. An ink set comprising a first ink and a second ink in combination,

wherein the first ink comprises a pigment and a resin encapsulating a coloring material, and

each of the first and second inks has a color selected from the group consisting of yellow, magenta, cyan, black, red, green and blue.

- 40. The ink set according to Claim 39, wherein the coloring material is encapsulated in a microcapsule made of the resin.
- 5 41. An ink set comprising a first ink and a second ink in combination,

wherein the first ink comprises either a pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material, and

each of the first and second inks has a color selected from the group consisting of yellow, magenta, cyan, black, red, green and blue.

- 42. The ink set according to Claim 41, wherein the second ink comprises an anionic compound.
- 43. The ink set according to Claim 42, wherein the anionic compound is a dye having an anionic group.
- 44. The ink set according to Claim 41, wherein the coloring material is encapsulated in a microcapsule made of the resin.
- 25 45. An image recording process, comprising the step of applying an ink, which comprises a pigment and a resin encapsulating a coloring material, to a

10

20

5

10

recording medium.

- 46. The image recording process according to Claim 45, wherein the coloring material is encapsulated in a microcapsule made of the resin.
- 47. An image recording process, comprising the step of applying an ink to a recording medium, wherein the ink comprises either a pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material.
- 48. The image recording process according to

 15 Claim 47, wherein the coloring material is encapsulated in a microcapsule made of the resin.
- 49. An image recording process, comprising the step of applying at least two color inks to a recording medium using an ink-jet recording method to form a multi-color image, wherein one ink comprises either a pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material, and the other ink comprises a compound having an anionic compound.
 - 50. The image recording process according to

5

25

Claim 49, wherein the coloring material is encapsulated in a microcapsule made of the resin.

- 51. The image recording process according to Claim 49, wherein the ink comprising either the pigment having a cationic group, or the pigment and the pigment dispersant having a cationic group, and the resin encapsulating a coloring material is a black ink.
- 52. The image recording process according to Claim 49, wherein the compound having an anionic group is a dye having an anionic group.
- 53. An image recording apparatus, comprising:

 a recording unit which has an ink container

 containing an ink comprising a pigment and a resin

 encapsulating a coloring material, a recording head and

 a means for feeding the ink from the ink container to

 the recording head, and
- a means for actuating the recording unit to eject the ink from the recording head.
 - 54. The image recording apparatus according to Claim 53, wherein the coloring material is encapsulated in a microcapsule made of the resin.
 - 55. An image recording apparatus, comprising:

a recording unit which has an ink container containing an ink comprising either a pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material a recording head and a means for feeding the ink from the ink container to the recording head, and

a means for actuating the recording unit to eject the ink from the recording head.

10

5

56. The image recording apparatus according to Claim 55, wherein the coloring material is encapsulated in a microcapsule made of the resin.

15

57. An image recording apparatus, comprising:
a recording unit which has ink containers
containing first and second inks respectively, a
recording head and a means for feeding the inks from
the ink containers to the recording head, and

20

a means for actuating the recording unit to eject the respective inks from the recording head, wherein the first ink comprises either a pigment having a cationic group, or a pigment and a pigment dispersant having a cationic group, and a resin encapsulating a coloring material, and the second ink is an anionic ink.

58. The image recording apparatus according to Claim 57, wherein the coloring material is encapsulated in a microcapsule made of the resin.

ADB

Codd C7